

United States Government

Department of Energy

# memorandum

Carlsbad Field Office  
Carlsbad, New Mexico 88221

DATE: September 27, 2001

REPLY TO  
ATTN OF: CBFO:NTP:JDV:VW:01-1732:UFC:5822

SUBJECT: Maintaining Efficiency of TRU Waste Shipments to WIPP

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As you know lately there has been some question as to what constitutes efficient use of transportation resources regarding the numbers of TRUPACT-11s per shipment and the number of drums shipped per TRUPACT. This letter is intended to provide guidance for a common sense approach to using DOE transportation resources. Shipping sites must continue to take responsibility for the efficiency of their shipments. However, the Carlsbad Field Office will continue to monitor shipment data to minimize inefficiency in the use of shared transportation resources (e.g. tractors, trailers, and TRUPACTs).

Each site must take a common sense approach to loading and shipping waste. For example, it costs the DOE the same amount to ship three TRUPACTs as it does for two, and it costs the same amount to ship dunnage as it takes to ship containers full of waste. In addition, it is an inefficient use of waste disposal capacity to dispose of dunnage in the WIPP underground. It is, therefore, incumbent upon each generator site to ship the maximum amount of waste per shipment to keep unit cost (\$/m<sup>3</sup> of waste shipped and disposed) at acceptable levels. Generators should ship three TRUPACTs per shipment when possible and TRUPACTs should be full (i.e. 14 drums or 2 SWBs).

Exceptions to this rule are:

- **Weight restrictions:** When shipping heavy containers it may be necessary to use two TRUPACTs instead of three so as not to exceed the 80,000 pound cumulative limit for truck, trailer, and payload. It may also be necessary to ship dunnage drums in seven-packs of waste if the cumulative weight for fourteen drums exceeds the payload capacity of the TRUPACT. It is preferable to minimize the number of dunnage drums in a seven-pack by replacing a heavy drum with a lighter one, but it is not mandatory to do so if the "optimum drum" is not readily available without having to expend inordinate time and energy to find that container.

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- **Fissile Gram Equivalent (FGE) load restricted:** As defined in section 3.2.2 of the Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 7, DOE/WIPP-069, "...A payload container shall be acceptable for transport only if the 239 Pu FGE plus two times the measurement error is less than or equal to 200 g for a drum, 200 g for a pipe component, 325 g for an SWB, or 325 g for a TDOP. (Reference 5, appendix 1.3.7, section 3.1)" and, "...A TRUPACT-II shall be acceptable for transport only if the 239 Pu FGE plus two times the measurement error is less than or equal to 325 g for a payload of fourteen 55-gallon drums, two SWBs, or one TDOP. A TRUPACT-II shall be acceptable for transport only if the 239 Pu FGE plus two times the measurement error is less than or equal to 2,800 g for a payload of fourteen 55-gallon drums containing pipe components. (Reference 5, appendix 1.3.7, section 3.1)." In this case generators may ship dunnage if the waste approaches the FGE limit. In addition, it is preferable to send complete seven-packs of waste with a seven-pack of returnable dunnage. The second seven-pack of waste in a TRUPACT, if sent, should contain a minimum of four containers of waste.

**End of a waste stream:** Until Revision 19 of the Safety Analysis Report for the TRUPACT-II Shipping Package (TRUPACT-II SARP) is implemented, generator sites may ship less than full TRUPACTs when there is a limited amount of shippable inventory in a given waste stream and there is no other shippable waste of a similar shipping category. This exception will no longer be valid once Rev. 19 is implemented and sites are allowed to ship mixed shipping categories in the same TRUPACT. Additionally, this exception does not apply when there is a significant amount of waste remaining in a given waste stream at the generator site, but not yet characterized/certified for disposal at WIPP. In this case, the generator simply does not have enough certified waste to constitute a shipment and will not be authorized to make that shipment.

- **Gas Generation Restricted:** Once Rev. 19 of the TRUPACT-II SARP is implemented, additional methods will be available to sites in demonstrating compliance with flammable gas concentration limits. These methods cannot be used until Rev. 19 is implemented and approved for use by the CBFO. Under Revision 19, containers exceeding the analytical decay heat limit or the 500 parts per million (ppm) concentration limit on flammable volatile organic compounds (VOC), or containers belonging to Waste Type IV are classified as "test category" waste. Test category containers may qualify for a shipment by the following methods:

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- ◆ Compliance with Flammable (Gas/VOC) Limits by Measurement
- ◆ Compliance with Flammable (Gas/VOC) Limits by Full-Drum Testing
- ◆ Compliance with Flammable (Gas/VOC) Limits by Mixing of Shipping Categories in a Payload Assembly

In addition, Rev. 19 allows the shipper to add dunnage as required to create additional void space. In some instances, this may be required to allow shipment of test category waste.

It is important to note that these are guidelines and cannot possibly anticipate all of the special circumstances that may arise. In those cases, or if you have questions, please contact me at (505) 234-7478.



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